



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|-----------------------|---------------------|--------------------|
| 10/056,386 | 01/24/2002 | Sheryl Leigh Woodward | 2001-0246 | 3901 |
| 7590 | 07/01/2005 | | EXAMINER | |
| Samuel H. Dworetsky AT&T CORP. P. O. Box 4110 Middletown, NJ 07748-4110 | | | | LEUNG, CHRISTINA Y |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2633 | |

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|--------------------|------------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/056,386 | WOODWARD, SHERYL LEIGH |
| | Examiner | Art Unit |
| | Christina Y. Leung | 263B |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 12 April 2005.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-5 and 7 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-5 and 7 is/are rejected.

7) Claim(s) 7 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 12 April 2005 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

- Certified copies of the priority documents have been received.
- Certified copies of the priority documents have been received in Application No. _____.
- Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5) Notice of Informal Patent Application (PTO-152)

6) Other: _____.

DETAILED ACTION

Drawings

1. The drawings were received on 12 April 2005. These drawings are acceptable.

Claim Objections

2. Claim 7 is objected to because of the following informalities:

Claim 7 recites “The add multiplexer of claim 1 this wherein...” in line 1 of the claim.

Examiner respectfully suggests that Applicant remove the word “this” from this line in the claim for grammatical reasons.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1 currently recites “a wavelength add mechanism connected to said second port of said optical circulator and adapted to receive optical signals from said second port and *to provide no optical signals to said second port*” (emphasis added) in lines 6-8 of the claim. However, all of Applicant’s Figures that show the add mechanism in relation to the circulator (Figures 2, 3a,

3b, 4, 5, and 6) also show “reverse path 212,” i.e., optical signals provided from the add mechanism to the second port of the circulator.

Examiner respectfully notes that path 112 is *not* a separate, direct path from add mechanism 206 to the detection mechanism 302 or another element (as it may appear in Figure 3 at first glance, for example). Examiner respectfully notes that Applicant’s specification on page 5, paragraph [1021] states:

“However, a fraction of the optical power introduced by ADD mechanism 206 might not be directed along the desired path. In this case, the errant optical power will propagate along the route shown in reverse path 212. *The errant signals enter the second port of optical circulator 204 and exit via the third port of optical circulator 204.* These signals then can be detected. They can be used to either create an error signal, monitor the ADD operation, or to tune any tunable optical devices included in ADD mechanism 206. This detection is illustrated in FIG. 3.” (emphasis added)

Therefore, claim 1 is rejected under 35 U.S.C. 112, first paragraph, because Applicant’s specification does not appear to support an embodiment of the invention wherein the add mechanism provides “no optical signals” to the second port of the circulator as currently recited in claim 1.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al. (US 2001/0030786 A1) in view of Liu et al. (US 2003/007209 A1).

Regarding claim 1, as well as the claim may be understood with respect to 35 U.S.C. 112, discussed above, Takahashi et al. disclose an add multiplexer (Figure 1) comprising:

an input port (where fiber 13 inputs a signal in the figure);
an optical circulator (circulator 11) comprising a first port, a second port, and a third port, the first port of the optical circulator coupled to the input port of the add multiplexer;
an optical monitor mechanism (including filter 20 and detector 21 within a controller 29; page 3, paragraph [0028]) coupled to the third port of the optical circulator;
a wavelength add mechanism (including grating 15 and circulator 12) coupled to the second port of the optical circulator and adapted to receive optical signals from the second port; and
an output port (where fiber 14 outputs a signal in the figure) coupled to the wavelength add mechanism (page 1, paragraph [0008]; page 2, paragraph [0023]).

Examiner notes that Figure 4 of Applicant's specification also shows that an "add mechanism," element 206, may comprise a circulator and filter such as also disclosed by Takahashi et al.

Takahashi et al. disclose that the optical monitor mechanism is coupled to the third port of the optical circulator and disclose that the monitor is also coupled to a tunable device of the add mechanism (i.e., grating 15) thereby providing a feedback path. They do not specifically disclose providing a feedback path to a tunable source.

However, Liu et al. teach an add multiplexer (Figure 6) related to the one disclosed by Takahashi et al. and further teach using a tunable optical source 44 for adding optical signals (page 3, paragraphs [0040] and [0041]). It would have been obvious to a person of ordinary skill

in the art to use tunable lasers as taught by Liu et al. as the tunable optical devices in the system disclosed by Takahashi et al. as a way to allow the system to add signals with different wavelengths as desired at various times.

Regarding claim 2, Takahashi et al. disclose that the optical monitor measures optical power at the third port of the optical circulator (page 3, paragraphs [0028] and [0029]).

Regarding claim 3, Takahashi et al. disclose that the optical monitor measures the wavelength of light at the third port of the optical circulator (using filter 20; page 3, paragraphs [0028], [0029], [0037] and [0038]).

Regarding claim 4. Takahashi et al. disclose that the optical monitor measures both the optical power versus wavelength (Figures 2A and 2B; pages 3 and 4, paragraphs [0037] and [0038]).

Regarding claim 5, Takahashi et al. disclose that the optical monitor mechanism is coupled to the third port of the optical circulator and to the wavelength add mechanism, thereby providing a feedback path. Figure 1 shows how the monitor, i.e., controller 29, is coupled between the third port 27a of circulator 11 and the wavelength add mechanism, specifically grating 15 (page 3, paragraphs [0029] and [0034]).

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al. in view of Liu et al. as applied to claim 1 above, and further in view of Miyakawa et al. (US 5,926,300 A).

Regarding claim 7, Takahashi et al. in view of Liu et al. describe a system as discussed above with regard to claim 1, and further disclose dropping signals with a drop mechanism. They do not specifically disclose that a drop mechanism is coupled in between the input port and the

first port of the optical circulator, since in the system disclosed by Takahashi et al. the optical circulator itself comprises part of a drop mechanism.

However, Miyakawa et al. teach an optical system related to the one described by Takahashi et al. in view of Liu et al. including mechanisms for adding and dropping signals and an optical monitor mechanism 12 (Figure 2; column 3, lines 46-54). They further teach using a separate circulator 11 to direct light from an add mechanism (comprising circulator 2 and grating 4) to optical monitor 12 while a drop mechanism (comprising circulator 1 and grating 3) is coupled in between an input port of the system (i.e., where “input light” is inputted in Figure 2) and the optical circulator 11.

It would have been obvious to a person of ordinary skill in the art to modify the system described by Takahashi et al. in view of Liu et al. so that the circulator coupled between the add mechanism and the monitor mechanism, is separate from a circulator used in a drop mechanism as suggested by Miyakawa et al., so that the drop mechanism can be placed in between the input port and the circulator and thereby utilize a grating that is different from the grating used in the add mechanism. The arrangement suggested by Miyakawa et al. advantageously allows dropped wavelengths to be selected independently of the added wavelengths since more than one grating is used.

Response to Arguments

8. Applicant’s arguments filed 12 April 2005 have been fully considered but they are not persuasive.

Applicant’s arguments are primarily based on the assertion that Takahashi et al. do not specifically disclose that the add mechanism is “adapted to... provide no optical signals” to the

second port of the optical circulator as currently recited in claim 1. However, as noted in detail above with respect to 35 U.S.C. 112, Examiner respectfully notes that Applicant's own invention and specification is likewise not directed to a system including an add mechanism that provides no optical signals to the second port of the circulator as recited.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christina Y. Leung whose telephone number is 571-272-3023. The examiner can normally be reached on Monday to Friday, 6:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571-272-3022. The fax phone number for the

Art Unit: 2633

organization where this application or proceeding is assigned is 703-872-9306 until July 15, 2005; on or after July 15, 2005, the fax number is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

m. r. sedighian
M. R. SEDIGHIAN
PRIMARY EXAMINER